

REPORT OF THE PARASITE IDENTIFICATION AND
DISTRIBUTION INVESTIGATIONS RESEARCH GROUP
FOR

COMMITTEE PRINT OF THE HONORABLE HUBERT HAMPREY
THE INDEX-CATALOGUE OF MEDICAL AND VETERINARY ZOOLOGY

(A) 1. History and Evolution:

The Index-Catalogue of Medical and Veterinary Zoology originated in 1891 at the time the Zoological Laboratory became a Division of the Bureau of Animal Industry. It began with a small file of references which Dr. Albert Hassall, a veterinary parasitologist in the Division, accumulated in response to requests of the Division Chief who asked him to look up literature on parasites. This literature was so widely scattered and published in so many languages that it was difficult to find many of the references. When Dr. Hassall found the requested references, he made notes on cards that he kept for future use. To make them as useful as possible, he classified them in three main sections, one for the parasites themselves, another for their hosts, and a third for the scientists who reported their observations. With the passage of time this index became a most valuable source of parasitological information. From 1902 to 1936 the responsibility for the catalogue was shared by the Zoological Division of the Bureau of Animal Industry and the Zoological Division of the Hygienic Laboratory, U.S. Public Health Service. Since that time the Department of Agriculture has carried the responsibility for the work. After Dr. Hassall retired in 1933 other professional employees continued the work. This catalogue now includes more than 1,500,000 entries gleaned from more than 22,000 publications and is housed at the Beltsville Parasitological Laboratory.

In 1953 when the Zoological Division was dissolved, the Index-Catalogue was included in the Helminth Section of the Animal Disease and Parasite Research Branch of the Agricultural Research Service. In 1957, one year after the Branch became a Division and the Helminth Section became the Helminthological Investigations Research Group, this work was removed from the last-mentioned group and was named the Parasite Identification and Distribution Investigations Research Group. The head of this group has not yet been designated.

(A) 2. Purpose and Objectives:

The planning and conducting of research on parasites and parasitic diseases of animals cannot be done effectively without knowledge of the results obtained by other workers throughout the world, nor can correct diagnoses of parasitic diseases be made unless the causative agent can be accurately identified. It is the purpose of the research group to compile and maintain an index to the world's literature on parasites and parasitic diseases of animals and of the parasitic nematodes of plants now published in 33 languages to provide scientists working in these fields a means of ready access to historic and current information on all aspects of these subjects.

It is hoped that the subject (parasite) index, host index, and index of antiparasitic chemicals, an index of the geographical distribution of parasites and parasitic diseases of domestic animals and man and the check list of specific and subspecific names, may be published and added to the Author Index which is currently appearing in annual supplements.

(A). 3. Current Work:

The staff of the Index-Catalogue of Medical and Veterinary Zoology are continually searching the current, as well as older, literature in parasitology, helminthology, protozoology, veterinary and human medicine, and related fields for references to parasites and parasitic diseases of domestic and wild animals, and man. This literature is obtained from the Library of the Department of Agriculture, the National Library of Medicine, the Congressional Library and other sources both domestic and foreign. This information is catalogued in the subject, host, and author indices, previously mentioned and the check list of specific and sub-specific names. The author card gives the complete reference, author's name, title of article, date, and journal in which it is found. Titles of articles not easily translated into English (Russian, Japanese, etc.) are usually given in English. Cards are also prepared for the antiparasitic chemical index. During 1958, 11,404 references to the author catalogue, 24,811 references to the subject or parasite catalogue, and 12,146 references to the host catalogues were added to the total. This number was approximately twice the number added to the first two indices, and three and one-half times the number added to the host index in 1949. Copy for the next supplement of the author section is being prepared and the galley of the supplement now in press is being proof read. In addition to this work numerous inquiries by mail and telephone have been answered in the subject matter field, visitors have been aided in using the catalogue, and members of the laboratory staff have been helped with individual problems relating to their research. The author index is being supplied free to 958 scientists and institutions in the United States and to 212 scientists and 216 institutions located in

67 foreign countries. Fifty-three of the foreign institutions are veterinary schools or research centers and 31 are medical centers.

(B) Accomplishments and Their Significance:

The Index-Catalogue of Medical and Veterinary Zoology is one of the most valuable reference works in parasitology ever published. References to Medical and Veterinary Parasitology extend into the sixteenth century, and some even to Fourteen hundred years B.C. The ideal set by the staff of the Index-Catalogue of Medical and Veterinary Zoology is to cover every published article pertaining to parasites in this vast amount of literature. This has been accomplished according to a recent estimate with about 90 percent efficiency.

There is no other source of accumulated information pertaining to parasites such as the Index-Catalogue of Medical and Veterinary Zoology in existence. Parasitologists all over the world depend upon the author catalogue and by correspondence upon the information in the card catalogue at the Beltsville Parasitological Laboratory. These workers have gladly lent their copies of rare publications for indexing.

The publications of this phase of parasitological work are as follows:

1902-1912 Index-Catalogue of Medical and Veterinary Zoology, Authors A-Z, Bureau of Animal Industry, Bulletin 39 (published in 36 parts by the U.S. Department of Agriculture, and now out of print). 2,766 pages.

1905. Trematode and trematode diseases. Bul. 37 of the Hygienic Laboratory, Public Health and Marine Hospital Service of the United States (published as part of the Index-Catalogue of Medical and Veterinary Zoology). pp 1-401.

1912. Cestode and Cestodaria. Bulletin 85, Hygienic Laboratory, Public Health and Marine Hospital Service of the United States (published as part of the Index-Catalogue of Medical and Veterinary Zoology). pp. 1-467.

1920. Roundworms (Nematode, Gordiaceae, and Cesthocephali) and the diseases they cause. Bulletin 114, Hygienic Laboratory, Public Health and Marine Hospital Service of the United States (published as part of the Index-Catalogue of Medical and Veterinary Zoology). pp. 1-886.

1925. Key-Catalogue of the Protozoa reported from Man. Bulletin 140, Hygienic Laboratory. 67 pp.

1926. Key Catalogue of the Worms reported from Man. Bulletin 142, Hygienic Laboratory. pp. 69-196.

1927. Key Catalogue of the Crustaceans and Arachnoids of Importance in Public Health. Bulletin 143. Hygienic Laboratory. pp. 197-299.

1928. Key Catalogue of Insects of Importance in Public Health. Bulletin 150. Hygienic Laboratory. pp. 291-406.

1929. Key-Catalogue of Parasites reported for Primates (Monkeys and Lemurs) with their Possible Public Health Importance, and Key Catalogue of Primates for which Parasites are Reported. Bulletin 152, Hygienic Laboratory. pp. 409-601.

1931. Key-Catalogue of Parasites Reported for Chiroptera (Bats) with their Possible Public Health Importance, and the Confused Nomenclature of *Hycteribia latreille*, 1796, and *Spinturnix Hayden* 1826. National Institute of Health Bulletin No. 155. pp. 603-789.

1932. Key Catalogue of Parasites Reported for Insectivora (Bats, Skrews, etc.) with their Possible Public Health Importance. National Institute of Health Bulletin No. 159. pp. 791-911).

1935. Key-Catalogue of Parasites Reported for Carnivora (Cats, Dogs, Beers, etc.) with their Possible Public Health Importance. National Institute of Health Bulletin No. 163. pp. 913-1223.

1932-1959. Index-Catalogue of Medical and Veterinary Zoology. Authors. The author section of the catalogue has been revised and has been issued during this period in 18 parts (5,711 pages), and nine annual supplements (2,930 pages), and is being kept up-to-date. It is this Catalogue which has such a wide circulation in veterinary and medical centers and that is regarded by parasitologists throughout the world as an authoritative source of information on parasites and parasitic diseases of animals and man.

The Index-Catalogue of Medical and Veterinary Zoology. Mildred A. Boss. Bull. Med. Lib. Assoc. 41(2):110-111, 1953.

The Role of Documentation in Parasitological Research. Mildred A. Boss, Jour. Parasit. 42(4) Suppl. p. 34. 1956.

Peripheral Publications in the Documentation of Biology. Mildred A. Boss. Preprint, 1st. Conf. Scientific Inf., Washington, D.C. Nat. Acad. Sci. NRC Washington, D.C. pp. 115-120, 1958.

Glossary of Nematological Terms - Russian - English; English - Russian. Judith M. Hargrey. 9 pp. Mimeographed paper. 1958.

One of the greatest contributions of this laboratory was made during World War II when it provided vital information on the distribution of parasites and parasitic diseases to the Armed Forces and the Public Health Service which used the information in mapping their distribution for the operations in the Pacific Theater.

Recently in 1953, the paper entitled, "Peripheral Publications in the Documentation of Biology," was a significant contribution to the International Conference on Scientific Information held in Washington, D.C.

From January 1, 1955, to October 1, 1959, 113,347 species of parasites have been recorded from 59,752 hosts. Of these there were listed the following numbers of new genera and species, respectively, Nematoda 248 and 1,810; Trematoda 220 and 1,463; Cestoda 71 and 447; or a total of 539 new genera and 3,720 new species of worms. New host records from Jan. 1, 1956, to October 1, 1959, show 464 new genera, 1,581 new species, and 806 new subspecies. The number of papers on helminth parasites published by the Division from January 1, 1952, to October 1, 1959, was 1,317.

The Index-Catalogue is used by the parasitologists of the Beltsville Parasitological Laboratory, and by those of the Fish and Wildlife Service, Laboratory of Parasitology of the National Institutes of Health, Walter Reed Medical Center, Naval Medical Research Laboratory, Graduate Schools of the University of Maryland and Catholic University, and Plant Nematology Section of the U.S. Department of Agriculture.

This great work will form an enduring monument to the tireless industry and painstaking care of the authors, an exceedingly tedious task of a most exacting nature in its requirements for accuracy of detail and completeness of scope. Its successful accomplishment has been and is of incalculable benefit in facilitating research in veterinary and medical parasitology by providing the means by which a worker can readily trace the literature on the particular subjects in parasitology in which he is interested.

(C) Major Problem Areas:

The major problem areas involving the Index-Catalogue of Medical and Veterinary Zoology and the maintenance of the Parasite Collections arise from (1) failure to appreciate the tremendous and vital contributions both types of parasitological investigation make to Veterinary and Human Medicine in facilitating research on the parasites and parasitic diseases of animals and man not only in the United States but in the world at large; and (2) consequent lack of adequate financial support of the research program necessary for the carrying out of both operations efficiently and without inordinate delay in achieving the goals which should be reached in these investigations, in order to make their maximum contributions to present-day medicine and public health. The fact that the subject and host indices are not published makes them very vulnerable to destruction by fire or other catastrophe. They should be published if for no other reason than to protect them. Their publication, however, would also make them available to the many scientists who cannot come to Beltsville to consult them. Personnel problems could be solved and these indices published if sufficient funds were available for the work.

(D) Opportunities:

With proper financial support needed research could be completed to obtain records that have never been acquired for the Index-Catalogue of Medical and Veterinary Zoology. Some of these references are known and are not now indexed because of lack of personnel. Some of them are not available in the United States, but should be sought in the country of origin and be copied or brought here and indexed. All of the existing records should be edited and the various catalogues published and

distributed free of charge to every Veterinary and Human Medical Center, Public Health Diagnostic Laboratory, and Parasitological Research Laboratory, University and Research Libraries, to Agricultural Experiment Stations, and to anyone who is working in the field of parasitology and is making contributions to this field of science. If our staff were doubled and money set aside for printing and some travel we could complete the indexing, editing and publishing of the various indices in about 10 years. This would make available the entire field of knowledge of parasitology to each research worker in his own laboratory which could be consulted at a moment's notice. Such a source of knowledge is a basic requirement for fundamental parasitological research in veterinary and medical science.

Index-Catalogue of Medical and Veterinary Zoology

I. What it is -

An index of worldwide literature on parasites and parasitisms of -

1. man
2. domestic animals and poultry
3. wild animals whose parasites may be transmitted to man, domestic animals and poultry
4. fur-bearing animals
5. wild life
6. free-living and parasitic nematodes of plants

The Index was designed to serve the need of a particular branch of science. Its designers were scientists working in the field and who had an understanding of the needs involved.

II. Brief history

1. Beginning - 1892¹ - by Albert Hassall
Hassall conceived the idea that much time could be saved by keeping card references to literature used by workers in the then Zoological Division.
2. Growth - This practice expanded to the indexing of all literature in the field of parasitology as it existed at that time, as well as current literature.

This work ultimately expanded to where it enjoys the status of an important project of the Division.

III. Nature of Index

The index is divided into four sections

- (a) Author catalogue
- (b) Subject, or parasite, catalogue
- (c) Host catalogue

(d) Treatment catalogue

(e) *Check list of Specific and Subgeneric names - geographical distribution*

The following is a brief discussion.

(a) Author catalogue -

Second edition published recently

- (1) Serves as a bibliographic key to the other catalogues.
- (2) Arranged alphabetically by author, with each author's papers arranged

chronologically with the following information:

Title

Full bibliographic information

Symbol referring to library in which the original is located.

(b) Subject or parasite catalogue

1. Arrangement by genera and species as given by author.

(a) name of species

(b) pages of publication on which the name appears, illustrations of species

(c) author

(d) host

(e) geographical locality

The subject catalogue has been published in three parts as follows:

1. The Trematoda - 1908

2. The Cestoda - 1912

3. The Nematoda - 1920

It represents material from combined catalogues of Zoo Division of BAI and Zoo Division of NIH.

(c) Host catalogue

Arranged according to genera and species of host and gives -

(1) name of parasite

(2) the location of parasite in host

(3) locality of host

(4) author of article

(d) Treatment catalogue

Deals with treatments which have been reported as of value in combatting parasitic diseases. In addition to a cross index to the drug, the parasite, the host, and the disease, an abstract of the article is included.

IV. Size of operation

Articles on parasites and parasitisms occur in $3\frac{3}{2}$ languages, which are indexed. The exact title and a translation thereof into English is recorded.

From 1955 - 1959

113,347 Entries relative to parasites

59,752 Entries relative to hosts

1958 - 11,404 author cat 2
24,811 Subject cat 2
12,146 host cat $3\frac{1}{2}$

On a yearly basis about 10,000 articles are indexed.

1959 - 9,549
30,045

the no
in 1949

V. Purpose and objective

Planning and conducting research on parasites and parasitic diseases cannot be done effectively in the absence of knowledge regarding results obtained by workers throughout the world.

9,751
42. num 9.124 sp. 806 Sub sp.

Correct diagnoses of parasitic diseases cannot be made unless the causative agent can be identified correctly.

It is the purpose of this activity to maintain an index to world's literature to provide scientists working in these fields with a means of ready access to historic and current information.

VI. Who utilizes

Scientists the world over. During late war, the index was called upon to provide armed forces with information regarding the parasites and parasitic diseases personnel could be expected to encounter in invasion tactics.

A few years ago, a Japanese scientist spent a considerable period of time in Parasite Laboratory compiling references to literature regarding one group of parasites. The information needed was available nowhere else in the world. Net result - 3 volumes. This worker is scheduled to return this year for further work.

Copies of Author Index - to 938 scientists and institutions in United States - to 212 scientists and 216 institutions located in 67 foreign countries.

Of these 216 institutions, 53 are veterinary schools or research centers, and 51 are medical centers.

VII. Value

One of the most valuable reference documents published.

References extend into 16th century and some as far back as 1400 years BC.

There is no other similar source from which complete information regarding parasites and diseases caused thereby the world over may be obtained.

Parasitologists the world over depend on author catalogue and by correspondence on information contained in the card catalogue.

Illustrative of the high regard in which Index is held by these workers, many have loaned copies of rare volumes in order that information contained therein may be indexed.